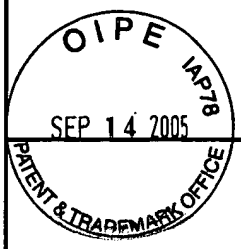
COMBINED TRANSMITTAL OF APPEAL BRIEF TO THE BOARD OF PATENT APPEALS AND INTERFERENCES & PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136(a) (Large Entity)	Docket No. DSCK-1158-D1

In Re Application Of: **Sanjay M. KUTTAPPA**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/863,910	May 23, 2001	GORDON, RAEANN		3711	3334

Invention: **Heavy Fillers In Golf Ball Cores**



COMMISSIONER FOR PATENTS:

This is a combined Transmittal of Appeal Brief to the Board of Patent Appeals and Interferences and petition under the provisions of 37 CFR 1.136(a) to extend the period for filing an Appeal Brief.

Applicant(s) hereby request(s) an extension of time of (check desired time period):

☐ One month ☒ Two months ☐ Three months ☐ Four months ☐ Five months

from: **12 JUL 2005** *Date* until: **12 SEP 2005** *Date*

The fee for the Appeal Brief and Extension of Time has been calculated as shown below:

Fee for Appeal Brief:	$500.00
Fee for Extension of Time:	$450.00
TOTAL FEE FOR APPEAL BRIEF AND EXTENSION OF TIME:	**$950.00**

The fee for the Appeal Brief and extension of time is to be paid as follows:

☐ A check in the amount of for the Appeal Brief and extension of time is enclosed.

☐ Please charge Deposit Account No. in the amount of

☐ The Director is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No.

09/15/2005 TBESHAH1 00000001 09863910
02 FC:1252 450.00 OP

☐ Any additional filing fees required under 37 C.F.R. 1.16.
☐ Any patent application processing fees under 37 CFR 1.17.

☐ If an additional extension of time is required, please consider this a petition therefor and charge any additional fees which may be required to Deposit Account No.

☒ Payment by credit card. Form PTO-2038 is attached.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

COMBINED TRANSMITTAL OF APPEAL BRIEF TO THE BOARD OF PATENT APPEALS AND INTERFERENCES & PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136(a) (Large Entity)	Docket No. DSCK-1158-D1

In Re Application Of: **Sanjay M. KUTTAPPA**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/863,910	May 23, 2001	GORDON, RAEANN		3711	3334

Invention: **Heavy Fillers In Golf Ball Cores**

TO THE COMMISSIONER FOR PATENTS:

This combined Transmittal of Appeal Brief to the Board of Patent Appeals and Interferences and petition for extension of time under 37 CFR 1.136(a) is respectfully submitted by the undersigned:

Signature

Dated: **September 12, 2005**

Mark D. Lorusso Reg. No. 41,955
LORUSSO & ASSOCIATES
15 Rye Street, Suite 312
Portsmouth, NH 03801
Phone (603) 373-0460
Fax (603) 373-5530

Certificate of Transmission by Facsimile*

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (Fax) on

(Date)

Signature

Typed or Printed Name of Person Signing Certificate

***This certificate may only be used if paying by deposit account.**

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

12 SEP 2005
(Date)

Signature of Person Mailing Correspondence

Mark D. Lorusso

Typed or Printed Name of Person Mailing Correspondence

cc:

AF
ZJW

Attorney's Docket No.: DSCK-1158-D1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANT: Sanjay M. KUTTAPPA

SERIAL NO.: 09/863,910
FILED: May 23, 2001
FOR: Heavy Fillers In Golf Ball Cores
EXAMINER: GORDON, RAEANN
ART UNIT: 3711
CONFIRM. No.: 3334

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Post Office to Addressee" service under 37 CFR 1.8 on this date, September 12, 2005 and is addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Mark D. Lorusso
(Typed or Printed name of person)

(Signature person mailing paper)

Mail Stop Appeal Brief - Patents
Commissioner For Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

Mark D. Lorusso
Registration No. 41,955
LORUSSO & ASSOCIATES
15 Rye Street, Suite 312
Pease International Tradeport
Portsmouth, NH 03801
Tel: 603-427-0070
Attorney for Appellants

09/15/2005 TBESHAH1 00000001 09863910
01 FC:1402 500.00 OP

Real Party in Interest

The real party in interest is Dunlop Sports Group Americas Inc., which has been assigned a 100% interest in the invention corresponding to the application under appeal.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of the Claims

Claims 1-31 are pending and are the subject of this appeal.

Status of Amendments

After final amendments to the claims have not been submitted. Appellant is seeking allowance of the currently entered claims.

Summary of Invention

A first embodiment of the golf ball is depicted in Figure 1.

A second embodiment is recited in independent claim 3.

A third embodiment is recited in independent claim 7.

A fourth embodiment is recited in independent claim 12.

A fifth embodiment is recited in independent claim 28.

A sixth embodiment is recited in independent claim 29.

The first embodiment of the golf ball is exemplified in claim 1, which recites a golf ball that comprises a one-piece core having a polybutadiene rubber with a cis content of 92% or greater(see, e.g., page 2 for a detailed description of the polybutadiene). The polybutadiene is mixed with a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the core, wherein the core has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697 (see, e.g., pages 6-8 for a detailed description of the heavy weight filler embodied in the claims). The core is then surrounded by a cover.

The second embodiment is exemplified in independent claim 3 and includes the additional element of a rubber

windings layer(as discussed on page 3), to produce a different ball system.

The third embodiment is exemplified by independent claim 7 a method for producing a heavy weight core. The specification at page 4 teaches selecting a heavy weight filler having a specific gravity of at least about 5.6 and provides some examples from the chart on page 5. The specification teaches at page 5 mixing the filler with a polybutadiene rubber, a rubber vulcanizing ingredient and core regrind, wherein the heavy weight filler comprises no more than about 1.95% volume of the center. The mixture is used to produce a plug. The plug is cured in a mold to form the center, wherein the center formed from the plug has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697. (see, e.g., pages 5-8 of the detailed description).

The fourth embodiment is exemplified by claim 12 and is directed solely toward a solid golf ball center. The production of the center is discussed throughout the specification. (see, e.g., pages 5-8 of the detailed description).

The fifth embodiment is exemplified by claim 28 and includes the element of using a peroxide curative. This is supported in Figure 1 and in the specification at page 6.

The sixth embodiment is exemplified by claim 29 and is directed toward the inclusion of zinc stearate and zinc oxide to assist in the cure of the core. Support for this embodiment is found in Figure 1 and in the specification at page 7.

Issue

Issue - Whether claims 1-31 are in sufficient compliance with the written description requirement and therefore patentable under 35 U.S.C. § 112, first paragraph?

Grouping of the Claims

For each ground of rejection, contested by Appellants herein, that applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand or fall together.

Argument

The Examiner has conceded that the specification is sufficient to teach one skilled in the art the limitations regarding the volume of the filler in the center or core. The Examiner insists, however, that the elements of the claims are "new matter" while refusing to acknowledge that

the cited ranges are present in the specification. The rejection based on the conclusion of new mater being inserted in the **claims** is improper as a proper new matter rejection concerns amendments to the specification.

Issue - Whether claims 1-31 are in sufficient compliance with the written description requirement and therefore patentable under 35 U.S.C. § 112, first paragraph?

Independent claim 1 recites a golf ball with a one-piece core, made from a polybutadiene rubber with a cis content of 92% or greater(see, e.g., page 2 for a detailed description of the polybutadiene). The polybutadiene is mixed with a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the core. The core has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697 (see, e.g., pages 6-8 for a detailed description of the heavy weight filler embodied in the claims). The core is then surrounded by a cover.

Claims 1-31 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner insists that the

claim(s) contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention, yet the examiner conceded in the Office Action mailed May 28, 2004 that the current claims were described sufficiently for one skilled in the art to make or use the invention.

Applicant respectfully traverses the Examiner's rejection as it fails to provide a prima facie case that the specification does not provide an adequate written description of the invention. The rejection is not supported with any facts or evidence that the specification lacks a sufficient description.

The polybutadiene is mixed with a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the core. This core volume is specifically taught by Example 1 on page 7 that compares the invention to that of the prior art fillers. Ball B is taught to use fillers of a specific gravity of 5.50% and they have a volume of 1.95% of the center. The specification teaches on page 8 that the use of "lower specific gravity filler" (i.e. one with 5.5 specific gravity) that leads to reduced properties because of the

reduction of other components. The specification teaches all other components and provides a teaching that less volume of filler is desired. Therefore it is clear that the Applicant was in possession at the time of filing using less than 1.95% by volume of heavy filler.

Similarly, with respect to the core having a PGA compression lower than 89.3 and a coefficient of restitution higher than .697 page 8 of the specification teaches with respect to the table with the 3 ball examples that "[a]s clearly demonstrated by the test results, the use of heavy weight fillers results in a desirable lower PGA compression and higher coefficient of restitution **relative to a core or center made with a filler having a lower specific gravity**." (emphasis added) Thus one skilled in the art would know that the Applicant possesses the invention regarding a volume of filler less than that for a lower gravity filler when holding factors such as the specific gravity of the whole core as evidenced clearly by the examples and analysis thereafter.

An analysis of the case law provides that the Examiner has the initial burden to produce a prima facie case presenting evidence or reasons why one skilled in the art would not recognize in the specification disclosure a written description of the invention defined by the claims.

The Examiner must provide evidence showing how each and every element in the claims is not in the application. Without facts supporting non-possession of each of these elements a rejection under the first paragraph of Section 112 is not proper. See *Ex parte Sorenson*, 3 USPQ2d 1462, 1463 (B.P.A.I. 1987) (citing *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (C.C.P.A. 1976)). See also *Ex parte Parks*, 30 USPQ2d 1234, 1236 (B.P.A.I. 1994).

A review of the decisions of the courts produces a four-part test that must be satisfied by the Examiner or a prima facie case of lack of written description is not met. The required elements are as follows:

1. The application does not reasonably describe or convey the concepts

2. to one of ordinary skill in the art

3. at the time of the filing the patent application

4. that the inventor had possession of the claimed invention.

The first element to support a written description rejection is whether there is a reasonable description that conveys the concepts of the invention and explain why the disclosure does not teach the claimed invention. The element of claim 1 directed toward a heavy weight filler that is no more than 1.95% of the volume of the core is

discussed on pages 7 and 8. The Examiner fails to even provide a conclusory statement why the limitation in the specification, while enabling to produce the invention does not satisfy the written description for possession of the invention either expressly or inherently. The table on page 7 that fully supports the volume limitation of the claim in question and thus written description requirement.

The Examiner stated correctly previously that 1.95% by volume relates to the low specific gravity filler zirconium dioxide (5.50), which the specification clearly states occupies a larger volume than the claimed invention relative to that number. The specification teaches that the volume of the filler must be *less than* 1.95% of the core/center for the benefits of the invention to be present. Use of the modifier "less than" should be readily interpreted by one of ordinary skill in the art to include values between 0% and 1.95%. Moreover, the volume of the same weight of conventional low specific gravity fillers is too great to meet this limitation. Thus, if it is arguably not expressly supported, it is unquestionably inherently supported.

On page 2, the Appellant's specification teaches that "*[c]onventional fillers used include calcium carbonate (specific gravity of 2.73), barium sulfate (sp. Gr. Of 4.3)*

and zinc oxide (sp. Gr. 5.6). Although these materials can be effectively used to increase the weight of a golf ball, ***the inevitable volume occupied by these materials when incorporated into a center or core results in a reduction in the polymer/rubber of the center or core.***" (emphasis added) This clearly teaches to one skilled in the art that the volume of the filler used with lower specific gravity fillers is a problem as it reduces the rubber content.

The Applicant provides further teaching to those skilled in the art on page 8 of the specification, which discuses the results of the chart on page 7, "*[a]s clearly demonstrated by the test results, the use of heavy weight fillers results in a desirable lower PGA compression and a higher coefficient of restitution* ***relative to a core made with a filler having a lower specific gravity***. (emphasis added) Thus the specification clearly teaches to one skilled in the art that the higher specific gravity fillers achieve their benefits through reduced volume of filler. A fair reading of the specification in the light of relevant case law allows the introduction of a verbal range.

In re Eickmeyer, 202 USPQ 655, 662 (C.C.P.A. 1979) the court held that to satisfy the description requirement of section 112, first paragraph, an application must contain

sufficient disclosure **expressly or inherently**, to make it clear to one skilled in the art that the appellant was in possession of the subject matter claimed (emphasis added). As discussed above, the claimed volume and other ranges are supported expressly, if not inherently on page 7 and 8 of the specification.

The court is clear that the Examiner's basis for a finding of lack of written description must be reasonable. Furthermore, the courts have stated that an illustrative example can satisfy the requirements of written description. The Applicant provides teaching that the volume of the heavy filler must be less than that of a conventional filler to provide benefits and provides an illustrative example on page 7. The Examiner has not met the burden to establish why the specification does not enable a volume of less than 1.95% other than requiring an unreasonably strict written description requirement contrary to the law.

The second element of a prima facie case of lack of written description is proof that the specification does not adequately describe the invention concept of the invention claimed to one of ordinary skill in the art. *Ex parte Parks*, 30 USPQ2d 1234, 1236-37 (B.P.A.I. 1993) held that an adequate description does not require literal

support for the claimed invention. It is sufficient if the originally filed disclosure would have conveyed to one having ordinary skill in the art that the appellant had possession of the concept of what is claimed. The Applicant's detailed description on page 4 teaches that *"[t]he key criteria is that the filler material must have a specific gravity of at least about 5.6."* The specification discusses the steps for producing a heavy filler core and refers to the table on page 7 for illustrative examples involving volume and other characteristics.

In *In re Hayes Microcomputer Prods. Inc. Patent Litig.*, 982 F.2d 1527, 25 USPQ 2d 1241 (Fed. Cir. 1992), the claims recited a software timer but the specification only described a known microprocessor that one skilled in the art knew could perform a timing function. The Federal Circuit held that the specification sufficiently described how to make and use the invention in broad terms:

> One skilled in the art would know how to program a microprocessor to perform the necessary steps described in the specification. Thus, an inventor is not required to describe every detail of his invention. An applicant's disclosure obligation varies according to the art to which the invention pertains. Disclosing a microprocessor capable of performing certain functions is sufficient to satisfy the requirement of section 112, first paragraph, when one skilled in the relevant art would understand what is intended and know how to carry it out.

Thus *Hayes Microprocessor* illustrates that the use of functional language is sufficient to enable a specification that discloses and claims an invention, and can also satisfy the written description. The examples from the Applicant's specification provide written description sufficient to one skilled in the art to possession of the invention having a filler volume of 1.95% or less. The Examiner's fails to even make a statement that one skilled in the art of golf ball manufacture would not have sufficient written description of a volume of less than 1.95% for the heavy filler, and thus it is not a reasonable rejection.

The third element of forming a valid prima facie case of insufficient written description is whether the language was present at the time of filing of the Application. The Examiner has not made any assertion that the specification has been amended or contains any matter not present during the original filing. The requirements that the table discloses 1.95% by volume of zirconium dioxide present in the core and 0.48% by volume of tungsten have been present since filing. The Examiner correctly concedes that the claimed volumes of 1.95% and 0.48% are enabled and taught by the specification. The Examiner is incorrect that the values between zero and 1.95% are new matter.

In *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 3 USPQ 2d 1737, 1743 (Fed. Cir.) *cert. denied*, 484 U.S. 954 (1987) the Federal circuit stated:

> If an invention pertains to an art where the results are predictable, e.g., mechanical as opposed to chemical arts, a broad claim can be enabled by disclosure of a single embodiment . . . and is not invalid for lack of enablement simply because it reads on another embodiment of the invention which is inadequately disclosed.

The Examiner rightly concedes that the specification is enabled for a volume of 1.95% and 0.48%. Volume is clearly part of the mechanical arts and volumes can be determined by one skilled in the art using Applicant's specification for guidance. The claimed range of a volume of less than 1.95% is clearly enabled and page 8 satisfies the written description fro that limitation. There is no requirement that the claims must be an exact copy of the specification for compliance with the written requirement, nor is there a requirement to provide examples for the all the remaining heavy fillers claimed.

The fourth element that must be proven to establish a valid prima facie case of lack of written description is that there description is insufficient to demonstrate that the inventor has possession of the claimed invention at the time of filing to one of ordinary skill in the art. The Examiner has failed to show that the volume of less than

1.95% of a core or center, described in the specification is not in compliance with the written description.

In *In re Naquin*, 398 F.2d 863, 158 USPQ 317, 319, the court held that "[t]he specification need describe the invention only in such detail as to enable a person skilled in the relevant art to make and use it." When the holding of Naquin is applied to the present facts, the application is sufficient regarding a volume range.

The Applicants have shown with the above arguments and case law that the rejection under 35 USC 112, paragraph one is not proper. A valid prima facie case of insufficient written description requires that the Examiner prove each of the four required elements are not present when rejecting the claims. None of the elements have been shown to reasonably exist by the examiner. Applicant respectfully requests that the rejection be reconsidered and removed.

Claims 1, 3, 7, 12 and 22-29 are rejected for containing new matter. The rejection is traversed by the Applicant as an improper rejection on its face. *In re Rasmussen*, 650 F.2d 1212, 211 USPQ 323, 326 (C.C.P.A. 1981) explains the requirements of a proper new matter rejection, as follows:

> Broadening a claim does not add new matter to the disclosure. Disclosure is that which is taught, not that which is claimed. An applicant is entitled to claims as broad as the prior art and his disclosure

> will allow. The proper basis for rejection of a claim amended to recite elements thought to be without support in the original disclosure, therefore is Section 112, first paragraph, not Section 132. The latter section prohibits addition of new matter to the original disclosure. It is properly employed as a basis for objection to amendments to the abstract, specifications, or drawings attempting to add new disclosure to that originally presented.

Therefore, the rejection of the claims for new matter is not correct. If the claims were actually rejected under 112, first paragraph, the arguments provided above prove that there is not a prima facie case of lack of written description because all numbers and ranges were specifically disclosed and ranges claimed.

Conclusion

For the foregoing reasons, the claims are patentable. Reversal of all rejections is courteously solicited. It is requested that all rejections be withdrawn and the application be passed to issue.

Respectfully submitted,

LORUSSO & ASSOCIATES

Mark D. Lorusso
Reg. No. 41, 955
Jeffrey D. Washville
Reg. No. 46,366

15 Rye Street, Suite 312
Portsmouth, NH 03801
Tel.: (603) 427-0070
FAX: (603) 427-5530

Dated: 12 SEP 05

Certificate of Mailing

The undersigned hereby certifies that this paper along with any paper or document referred to therein as being attached or enclosed, is being deposited with the United States Postal Service via First Class Mail, Postage Prepaid, service under 37 C.F.R. §1.8, in an envelope addressed to the Commissioner for Patents, Box 1450, Arlington, VA- This 12th day of SEPTEMBER 2005.

Mark D. Lorusso

Appendix

1. A golf ball comprising:

a one-piece core made of a mixture of compound components comprising:

a polybutadiene rubber having a cis content of 92% or greater; and,

a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the core, wherein the core has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697; and,

a cover layer disposed upon the core.

2. The golf ball of claim 1 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

3. A three-piece wound golf ball comprising:

a one-piece center made of a mixture of compound components comprising:

a polybutadiene rubber having a cis content of 92% or greater; and,

a heavy weight filler having a specific gravity of at least about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the center, and wherein the center produced with the heavy weight filler has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697;

a thread winding layer disposed upon the core wherein the thread layer comprises rubber; and,

a cover layer disposed upon the thread winding layer.

4. The golf ball of claim 3 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

5. The golf ball of claim 1 wherein the heavy weight filler is selected from the group consisting of bismuth, bismuth oxide, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, ferrous oxide and mixtures thereof.

6. The golf ball of claim 1 wherein the heavy weight filler is selected from the group consisting of iron, steel, tin, chromium, ferrous oxide and mixtures thereof.

7. A method of making a golf ball center comprising the steps of:

selecting a heavy weight filler having a specific gravity of at least about 5.6;

mixing the filler with a polybutadiene rubber, a rubber vulcanizing ingredient and core regrind, wherein the heavy weight filler comprises no more than about 1.95% volume of the center;

producing a plug;

curing the plug in a mold to form the center, wherein the center formed from the plug has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697.

8. The golf ball of claim 3 wherein the center produced with the heavy weight filler is selected from the group consisting of bismuth, bismuth oxide, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, ferrous oxide, and mixtures thereof.

9. The golf ball of claim 1 wherein the heavy weight filler is tungsten.

10. The golf ball of claim 3 wherein the heavy weight filler is tungsten.

11. The golf ball of claim 3 wherein the one-piece core further comprises a vulcanizing agent.

12. A golf ball solid center comprising:

a compound wherein the compound comprises polybutadiene rubber having a cis content of 92% or greater; and,

an inorganic filler having a specific gravity equal to or greater than about 5.6, mixed with the compound to form the center, wherein the center has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697 and, wherein the heavy weight filler comprises no more than

about 1.95% volume of the center, wherein the golf ball has a compression less than 97.3.

13. The golf ball solid center of claim 12 wherein the inorganic filler selected is tungsten.

14. The golf ball solid center of claim 12 further comprising a vulcanizing ingredient.

15. The golf ball solid center of claim 12 further comprising a core regrind mixed with the compound.

16. The golf ball solid center of claim 12 wherein the mixed with the compound wherein the inorganic filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

17. The golf ball solid center of claim 12 wherein the compound further comprises zinc diacrylate.

18. The golf ball of claim 2 wherein the core further comprises core regrind.

19. The golf ball center of claim 12 wherein the compound further comprises zinc oxide.

20. The golf ball center of claim 12 wherein the compound further comprises zinc stearate.

21. The golf ball center of claim 12 wherein the compound further comprises peroxide.

22. The golf ball of claim 1 wherein the ball produced with the heavy weight filler has a PGA compression lower than 97.3.

23. The golf ball of claim 3 wherein the ball produced with the heavy weight filler has a PGA compression lower than 97.3.

24. The golf ball of claim 1 wherein the golf ball produced with the heavy weight filler has a ratio of less than 15.285 parts heavy weight filler to 100 parts high cis polybutadiene.

25. The golf ball of claim 3 wherein the golf ball produced with the heavy weight filler has a ratio of less than 15.285 parts heavy weight filler to 100 parts high cis polybutadiene.

26. The golf ball of claim 1 wherein zinc oxide is less than 5 parts filler to 100 parts high cis polybutadiene.

27. The golf ball of claim 3 wherein zinc oxide is less than 5 parts filler to 100 parts high cis polybutadiene.

28. A golf ball comprising:

a one-piece core wherein the core has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697, and wherein the core is made of a mixture of compound components comprising:

a polybutadiene rubber having a cis content of 92% or greater;

a peroxide curative; and,

a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the core;

a cover layer disposed upon the core wherein the golf ball produced with the heavy weight filler results in a PGA compression lower than 97.3.

29. A three piece wound golf ball comprising:

a one-piece center wherein the center has a PGA compression lower than 95.7 and a coefficient of restitution higher than .695 made of a mixture of compound components comprising:

a polybutadiene rubber having a cis content of 92% or greater; and,

a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the center;

a peroxide curative;

a zinc stearate;

a zinc oxide;

a thread winding layer disposed upon the center wherein the thread layer comprises rubber forming a core; and,

a cover layer disposed upon the core wherein the golf ball produced with the heavy weight filler results in a PGA compression lower than 97.3.

30. The golf ball of claim 28 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

31. The three piece golf ball of claim 29 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, zinc, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.